



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,940	12/23/2003	Richard C. Caponi	SPIROL/111/US	9382

2543 7590 09/11/2006

ALIX YALE & RISTAS LLP
750 MAIN STREET
SUITE 1400
HARTFORD, CT 06103

EXAMINER

FERGUSON, MICHAEL P

ART UNIT PAPER NUMBER

3679

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/743,940	Applicant(s) CAPONI, RICHARD C.	
	Examiner Michael P. Ferguson	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 24-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 (line 1) recites "wherein the host material has a first hardness".

However, claim 24 recites "A pin for insertion in a hole in a host material". In other words, claim 24 recites only the subcombination of a pin with reference to a "host material" as intended use. Claim 30 now apparently seeks to require the host material. Accordingly, it is unclear as to whether the combination or subcombination is being claimed.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 24-27,31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Dove et al. (US 3,977,142).

As to claim 24, Dove et al. disclose a pin **10** for insertion in a hole in a host material **22,24** and frictional engagement therein, comprising:

an elongated cylindrical body having a longitudinal axis, a cylindrical pilot portion **16** having a first diameter, and a formed portion **14** defined by a plurality of alternating helical lands **A** and grooves **B**, each the land having a width **C** (Figure 4 reprinted below with annotations) measured perpendicular to the a substantially uniform height longitudinal axis, a majority of each land having extending above the first diameter, the width being at least approximately five times the height,

wherein the lands are oriented at an angle of approximately 45 degrees relative to the longitudinal axis (Figures 1 and 4).



As to claim 25, Dove et al. disclose a pin **10** wherein the second diameter is no greater than approximately 9% larger than the first diameter.

As to claim 26, Dove et al. disclose a pin **10** wherein the lands **A** have a surface area that is at least approximately 40% of a surface area of the formed portion **14**.

As to claim 27, Dove et al. disclose a pin **10** wherein the width **C** is between five and fifteen times the height.

As to claim 31, Dove et al. disclose a pin **10** wherein the pilot portion **16** is intermediate the formed portion **14** and an end of the pin (Figure 1).

Art Unit: 3679

As to claim 33, Dove et al. disclose a pin **10** wherein the grooves **B** have a width **D** measured perpendicular to the longitudinal axis and the width of the grooves is approximately equal to the width **C** of the lands **A** (Figure 4).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dove et al.

As to claim 29, Dove et al. fail to disclose a pin wherein the second diameter is 0.02 mm to 0.1 mm larger than the first diameter.

Applicant is reminded that a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin as disclosed by Dove et al. wherein the second diameter is 0.02 mm to 0.1 mm larger than the first diameter as such practice is a design consideration within the skill of the art.

As to claim 30, Dove et al. fail to disclose a pin wherein the host material has a first hardness and the pin has a second hardness, the first hardness and second hardness measured on the Rockwell Rc scale and the first hardness is approximately 10 points higher on the Rockwell Rc scale than the second hardness.

The applicant is reminded that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin as disclosed by Dove et al. wherein the first hardness is approximately 10 points higher on the Rockwell Rc scale than the second hardness as such practice is a design consideration within the skill of the art.

7. Claims 24-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Highfield (US Re. 34,928).

As to claims 24,27 and 33, Highfield discloses a pin for insertion in a hole in a host material **46** and frictional engagement therein, comprising:

an elongated cylindrical body having a longitudinal axis, a cylindrical pilot portion **A** (Figure 2 reprinted below with annotations) having a first diameter, and a formed portion **40** defined by a plurality of alternating helical lands **40** and grooves, each the land having a width measured perpendicular to the a substantially uniform height longitudinal axis, a majority of each the land having extending above the first diameter, wherein the lands are oriented at an angle of approximately 45 degrees relative to the longitudinal axis (Figure 2).



Highfield fails to disclose a pin wherein the width of each land is between five and fifteen times the height, and wherein the grooves have a width measured perpendicular to the longitudinal axis and the width of the grooves is approximately equal to the width of the lands.

Applicant is reminded that a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin as disclosed by Highfield wherein the width of each land is between five and fifteen times the height, and wherein the grooves have a width measured perpendicular to the longitudinal axis and the width of the grooves is approximately equal to the width of the lands because it would be expected that one of ordinary skill in the art would routinely experiment to arrive at the optimum or workable dimensions for a given application.

As to claim 25, Highfield discloses a pin wherein the second diameter is no greater than approximately 9% larger than the first diameter.

Art Unit: 3679

As to claim 26, Highfield discloses a pin wherein the lands **40** have a surface area that is at least approximately 40% of a surface area of the formed portion **40** (Figure 2).

As to claim 28, Highfield discloses a pin wherein a majority of each the land **40** is a substantially cylindrical surface parallel to the longitudinal axis (Figure 2).

As to claim 29, Highfield fails to disclose a pin wherein the second diameter is 0.02 mm to 0.1 mm larger than the first diameter.

Applicant is reminded that a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin as disclosed by Highfield wherein the second diameter is 0.02 mm to 0.1 mm larger than the first diameter as such practice is a design consideration within the skill of the art.

As to claim 30, Highfield fails to disclose a pin wherein the host material has a first hardness and the pin has a second hardness, the first hardness and second hardness measured on the Rockwell Rc scale and the first hardness is approximately 10 points higher on the Rockwell Rc scale than the second hardness.

The applicant is reminded that the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pin as disclosed by Highfield wherein the first hardness is approximately 10

Art Unit: 3679

points higher on the Rockwell Rc scale than the second hardness as such practice is a design consideration within the skill of the art.

As to claim 31, Highfield discloses a pin wherein the pilot portion **A** is intermediate the formed portion **40** and an end of the pin (Figure 2).

As to claim 32, Highfield discloses a pin, the pin having opposed ends and comprising a cylindrical pilot portion **A** intermediate the formed portion and each of the ends (Figure 2).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3679

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Ferguson whose telephone number is (571)272-7081. The examiner can normally be reached on M-F (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


MPF
08/23/06



DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600